A2575-20

1990

EXPLORATION

SURVEY ON

DEVELOPMENT

OIL & GAS

PRODUCTION

EXPENDITURES

American
Petroleum
Institute

Preface

The 1990 *Survey on Oil & Gas Expenditures* (SOGE), conducted by the American Petroleum Institute, contains the results of the 31st annual survey on oil and gas expenditures. The report describes spending activity in the search for and the production of oil and gas in the United States in 1990. In addition to data for the total United States, subcategories include: Onshore Lower 48 States, Offshore Lower 48 States, and Alaska. Also, the 19 largest companies according to net oil and gas lease revenues are compared to the rest of the industry.

The oil and gas expenditures survey has been conducted in its present form by the API beginning with survey year 1983. From 1973 to 1982, the Bureau of Census collected these data in the *Annual Survey of Oil and Gas*, and then discontinued its survey for budgetary reasons with the completion of the 1982 report.

Prior to the Census survey, from 1959 through 1975, oil and gas expenditures data were collected by the API as Section II of the *Joint Association Survey on Drilling Costs* (JAS). The API discontinued Section II of the JAS after publishing 1975 data, following a three-year parallel test period with the Census to ensure that its results were comparable to the API survey data.

In response to numerous requests by industry and non-industry analysts for continued information on upstream expenditures, the API resumed collecting these data after the Census Bureau discontinued its annual oil and gas expenditures survey. The definitions and instructions for the API survey are almost identical to those used by the Census Bureau, with the exception that some detailed information was not requested from respondents by the API survey. All major expenditure categories and their components are the same.

Washington, D.C.
November 1991

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1990 Survey on Oil & Gas Expenditures

EXECUTIVE SUMMARY

Domestic spending in the oil and gas industry rose slightly during 1990. Revenues were up, probably because of the sharp rise in crude oil prices toward the end of last year. The number of wells completed during 1990 also increased.

According to the 1990 *Survey on Oil & Gas Expenditures*, the industry spent, on average, 2.9 percent more in 1990 on exploration, development and production than it did in 1989. Total petroleum industry expenditures were estimated to be $45.2 billion in 1990, compared to $43.9 billion during the previous year.

It is important to note that these calculations do not reflect spending for work-in-progress. Work-in-progress expenditures are not yet available for 1990 due to changes in the way they are reported.

The increase in expenditures reflects higher well completion costs, which were up in 1990 due to an increase in the number of wells completed and footage drilled. This was the first time since 1984 that well completions were higher than the year before. Oil well completions and average drilling costs showed the highest year-to-year increase, which accounted for most of the increase in overall drilling costs.

Table I provides a summary of petroleum industry expenditures from 1988 through 1990. Estimated expenditures for additional sub-categories are contained in Tables 2 and 3 on the next two pages. Data for the onshore, offshore and total Alaska areas are summarized, as well as data for the 19 largest companies versus the rest of the industry.

The number of top-ranked companies according to net oil and gas lease revenues remained at 19 this year. However, two of the companies are new to the ranking. The revenue represented by this group remained the same.

Table I: U.S. Exploration, Development and Production Expenditures Summary
(Million Dollars)

	1990	% Change	1989	% Change	1988
Exploration:	$ 7,256	-0.6	$ 7,301	-24.8	$ 9,710
Drilling & Equipping	2,539	6.0	2,395	-20.3	3,004
All Other	4,717	-3.9	4,906	-26.8	6,706
Development:	$ 13,702	6.8	$ 12,830	-6.6	$ 13,734
Drilling & Equipping	8,391	15.6	7,259	-3.7	7,539
All Other	5,311	-4.7	5,571	-10.1	6,195
Production:	$ 24,196	1.9	$ 23,742	1.7	$ 23,353
Direct	15,473	3.8	14,904	-1.5	15,131
Indirect	8,723	-1.3	8,838	7.5	8,222
Total	**$ 45,154**	**2.9**	**$ 43,873**	**-6.2**	**$ 46,797**

Note: These data do not reflect work-in-progress expenditures.

TABLE II
1990 Estimated Expenditures For Exploration, Development, and Production By Geographic Area

(Million Dollars)

	Total U. S.	Percentage Change	Lower 48 Onshore	Lower 48 Offshore	Total Alaska
EXPLORATION EXPENDITURES:					
Total Drilling & Equipping Expenditures	$ NA	NA	$ NA	$ NA	$ NA
Total Completed Well Costs	2,539	6.0%	1,655	865	26
Oil Wells	346	43.0	320	2	24
Gas Wells	669	21.0	425	244	0
Dry Holes	1,524	-4.8	910	619	2
Work-in-Progress	NA	NA	NA	NA	NA
Acquiring Undeveloped Acreage	1,713	-2.6	961	719	33
Land Dept., Leasing & Scouting	297	25.3	247	35	15
Geological & Geophysical	1,046	9.5	676	303	67
Lease Rents	260	-1.1	168	66	26
Test Hole Contributions	7	-53.3	NA	NA	7
Other, incl. Direct Overhead and G & A Overhead	1,394	-16.9	NA	NA	NA
Total Exploration Expenditures	$ 7,256	-0.6	NA	NA	NA
DEVELOPMENT EXPENDITURES:					
Total Drilling & Equipping Expenditures	$ NA	NA	$ NA	$ NA	$ NA
Total Completed Well Costs	8,391	15.6%	7,188	906	295
Oil Wells	3,345	31.6	2,970	113	260
Gas Wells	3,796	8.8	3,311	466	19
Dry Holes	1,250	1.8	907	327	16
Work-in-Progress	NA	NA	NA	NA	NA
Lease Equipment	2,599	-6.4	1,430	967	202
Fluid Injection & Impr. Recov. Programs	974	5.9	712	58	204
Other, incl. Direct Overhead and G & A Overhead	1,738	-7.3	NA	NA	NA
Total Development Expenditures	$13,702	6.8	NA	NA	NA
PRODUCTION EXPENDITURES:					
Total Direct Operating	$15,473	3.8%	$11,148	$ 2,818	$ 1,507
Operating & Maintenance	12,650	9.1	9,529	2,068	1,053
Well Workovers	1,718	4.6	1,006	525	187
Other Direct Expenses	1,105	-33.6	613	225	267
Total Indirect Operating	$ 8,723	-1.3%	$ NA	$ NA	$ NA
Windfall Profits Tax	-14	30.0	NA	NA	NM
Other Taxes (excl. income taxes)	5,049	18.0	3,340	89	1,620
G & A Overhead and Other Indirect Expenditures	3,688	-19.5%	NA	NA	NA
Total Production Expenditures	$24,196	1.9%	NA	NA	NA
TOTAL EXPENDITURES	$45,154	2.9	NA	NA	NA

NA Not Available NM Not Meaningful
Work-in-Progress not reflected in 1990 totals or percentage changes
Windfall profits tax includes refunds due to overpayment in prior years

TABLE III
1990 Estimated Expenditures For Exploration, Development, and Production By Company Size (19 Largest Companies)

(Million Dollars)

	19 Largest Companies	Percentage Change	Percent of Total	All Other Companies	Percentage Change
EXPLORATION EXPENDITURES:					
Total Drilling & Equipping Expenditures	$ NA	NA	NA	$ NA	NA
Total Completed Well Costs	818	-12.1%	32.2%	1,721	17.6%
Oil Wells	94	16.0	27.2	252	56.5
Gas Wells	296	53.4	44.2	373	3.6
Dry Holes	428	-34.9	28.1	1,096	16.2
Work-in-Progress	NA	NA	NA	NA	NA
Acquiring Undeveloped Acreage	927	7.5	54.1	786	-12.4
Land Dept., Leasing & Scouting	161	11.8	54.2	136	46.2
Geological & Geophysical	701	2.2	67.0	345	28.3
Lease Rents	140	-2.8	53.8	120	NM
Test Hole Contributions	5	-61.5	71.4	2	0
Other, incl. Direct Overhead and G & A Overhead	1,079	-8.1	77.4	315	-37.4
Total Exploration Expenditures	$ 3,831	-3.1	52.8%	$ 3,425	0.8
DEVELOPMENT EXPENDITURES:					
Total Drilling & Equipping Expenditures	$ NA	NA	NA	$ NA	NA
Total Completed Well Costs	3,383	85.4%	40.3%	5,008	13.5%
Oil Wells	1,444	23.6	43.2	1,901	38.4
Gas Wells	1,469	32.1	38.7	2,327	-2.1
Dry Holes	470	38.6	37.6	780	12.3
Work-in-Progress	NA	NA	NA	NA	NA
Lease Equipment	1,867	-8.7	71.8	732	0
Fluid Injection & Impr. Recov. Programs	813	NM	83.5	161	59.4
Other, incl. Direct Overhead and G & A Overhead	1,422	20.7	81.8	316	-54.7
Total Development Expenditures	$ 7,485	12.4	54.6%	$ 6,217	0.8
PRODUCTION EXPENDITURES:					
Total Direct Operating	$ 9,432	NM	61.0%	$ 6,041	10.5%
Operating & Maintenance	7,306	4.4%	57.8	5,344	16.1
Well Workovers	1,213	1.5	70.6	505	12.7
Other Direct Expenses	913	-26.7	82.6	192	-54.1
Total Indirect Operating	$ 6,405	5.0%	73.4%	$ 2,318	-15.3%
Windfall Profits Tax	-10	28.6	71.4	-4	33.3
Other Taxes (excl. income taxes)	3,629	14.9	71.9	1,420	26.9
G & A Overhead and Other Indirect Expenditures	2,786	5.8	75.5	902	-44.5
Total Production Expenditures	$15,837	1.9%	65.5%	$ 8,359	1.9%
TOTAL EXPENDITURES	$27,153	3.8	60.1%	$18,001	NM

NA Not Available NM Not Meaningful
Work-in-Progress not reflected in 1990 totals or percentage changes
Largest 19 companies based on net oil and gas lease revenues

Survey Purpose and Coverage

The API *Survey on Oil & Gas Expenditures* (SOGE) contains information on expenditures related to finding, developing, and producing oil and natural gas in the United States. Industry estimates were derived using regression analysis and data from a sample of companies that responded to the SOGE questionnaire.

The SOGE was designed to be consistent with the Annual Survey of Oil and Gas conducted by the Census Bureau from 1973 through 1982. However, the SOGE differs significantly in coverage and scope. For example, completed well costs in the SOGE are taken from the API's *Joint Association Survey on Drilling Costs* (JAS), while the Census estimates were based on its survey responses.

It is important to note that JAS wells are classified as either exploratory or development using the Lahee classification system, while the Census data was classified according to Financial Accounting Standards Board definitions. Since the Lahee system uses more restrictive definitions for exploratory wells, the JAS well completion costs are relatively lower for exploratory and higher for development than the Census survey.

The JAS drilling cost estimates are used since respondents to the JAS represent a larger percentage of total activity than do the SOGE respondents, and provide more reliable estimates of drilling expenditures.

Readers should also be aware that SOGE development expenditures do not include the acquisition costs for producing acreage that were included in the Census survey. These expenditures were excluded from the SOGE because they do not represent new investment in the industry, but rather show the exchange of assets among companies.

Table IV

Estimated Net Oil & Gas Revenues

and Revenues Reported to SOGE

(Million Dollars)

	Total U.S.	Lower 48 Onshore	Lower 48 Offshore	Total Alaska
Net Revenues From Oil & Gas Production				
1990:	$72,709	$47,858	$14,654	$10,197
1989:	63,517	42,532	13,396	7,589
1988:	57,204	38,439	12,846	5,918
Net Oil & Gas Revenues Reported				
1990:	44,690	25,469	10,277	8,944
1989:	41,948	24,595	9,904	7,449
1988:	37,799	22,604	9,508	5,687
Percent Reported				
1990:	61.5	53.2	70.1	87.1
1989:	66.0	57.8	73.9	98.1
1988:	66.1	58.8	74.0	96.1

Finally, the API *Survey on Oil and Gas Expenditures* includes in its estimates expenditures by non-operating as well as operating companies. In this case, non-operating companies are those whose primary line of business is other than oil and gas extraction, but that do invest in oil and gas operations. These companies were not included in the 1987 Census of Mineral Industries.

The Sample

The 1990 sample contains data from those companies replying to a questionnaire mailed to oil and gas operators throughout the United States. The mailing list used is the same one developed for the *Joint Association Survey on Drilling Costs*. The questionnaire and instructions for the SOGE are shown in Appendix A.

The 1990 SOGE estimates are based on data reported by 306 companies whose net revenue accounted for 61.5 percent of the total estimated net revenues from oil and gas production. Table IV, below, presents the total estimated and sample revenues by geographic regions.

The 1990 SOGE sample includes 17 of the top 19 companies ranked by net oil and gas lease revenue. It also includes 38 of an estimated 111 active offshore companies, and 15 operators in Alaska.

SOGE Estimation Methodology

Expenditures on exploration, development and production are set up to vary positively with revenues from oil and gas activities, and companies with similar size revenues are assumed to have similar expenditure patterns.

The SOGE sample of respondent companies, though not randomly selected, is assumed to represent the spending patterns of non-reporting companies.

Total oil and gas revenues from the sample were used to estimate revenues for non-reporting companies.

The next step was to use the survey responses to model expenditure patterns for different size groupings of companies. These models were then used to estimate expenditures for the non-reporting companies based on their number and revenues. The general procedure followed was to work from data/or areas with progressively higher levels of uncertainty.

Estimating the Survey Universe. The total gross revenues from oil and gas production are based on data published by the Department of Energy's Energy Information Administration (EIA). Crude oil revenues are based on total crude oil production, as established in the EIA's *Petroleum Supply Annual*, multiplied by the average crude oil wellhead value.

Natural gas revenues are based on the value of marketed production as published in the EIA's *Natural Gas Annual*.

Since the revenues reported to the SOGE are on a net basis, it was necessary to reduce the gross revenue data to a net income basis. That is, gross revenues for crude oil and natural gas production were reduced by the amount of royalties paid by oil and gas operators. The assumption was made that royalty disbursements, on average, account for approximately 15 percent of the gross revenues, although it is acknowledged that offshore royalty payments are higher. Table V summarizes the gross and net revenues estimated for 1990 and earlier years.

Crude oil and natural gas production revenues account for the major share of revenues available to the oil and gas producing industry. But, additional revenues also come from royalty payments received by oil and gas operators and from other lease income incidental to oil and gas operations. Estimates for both royalty payments received and other lease income were developed from the sample data and extrapolated to a U.S. total. Table VI shows the 1990 total net lease revenues by source for each geographic area.

Once total net revenues were estimated, they were subdivided into 13 size classes based on the distribution of the revenues of companies responding to the SOGE.

For the 1990 survey, revenues for the top two size classes were known with a high degree of certainty from the sample and publicly available

Table V

Estimated Gross and Net Revenues From

Crude Oil and Natural Gas Production

(Million Dollars)

	Gross Revenues	Net Revenues
1990:		
Crude Oil	$53,744	$45,682
Natural Gas	$31,766	$27,001
Total	$85,510	$72,683
1989:		
Crude Oil	$44,043	$37,437
Natural Gas	$30,683	$26,080
Total	$74,726	$63,517
1988:		
Crude Oil	$37,448	$31,831
Natural Gas	$29,851	$25,373
Total	$67,299	$57,204

information. Revenues for the next four largest size classes were estimated based on the sample and the 1989 distribution. Revenues for these top six size classes represent 96 percent of the total 1990 net oil & gas revenues. The revenues not accounted for in the top six size classes were distributed based on their 1989 revenues shares and the 1990 sample.

The number of companies in each size class was estimated by dividing the total revenues for the class by the mid-point of the size class range. Once the revenue and the number of companies by size class for the universe were estimated, the number and revenue for non-reporting companies were determined by subtracting the number and revenues of responding companies from the universe.

Similar procedures were used for each geographic area.

Modeling Expenditures. Industry expenditures were estimated from the survey responses by regressing reported expenditures in each category on total revenues for each company in the sample. The regression models were then used to derive average and total expenditures for non-reporting companies in each of 13 size classes. Finally, the estimated unreported expenditures were added to the survey responses to arrive at total expenditures.

Expenditure models were estimated in log-linear form using a general linear regression technique. Survey responses for each item were divided into three groups, and a separate model for each group and item were used. Three groups were chosen over other possible combinations as this division seemed to best fit the expenditure patterns of the respondent companies.

Average unreported revenues by size class were then included in the estimated model equations to derive average unreported expenditures by class for each item. Average expenditures were then multiplied by the estimated number of unreported companies in each size class to derive total unreported expenditures. The number of unreported companies had been previously adjusted to reflect blank and zero survey responses.

Survey responses for each item were then added to the estimated unreported expenditures for that item to arrive at the total expenditure estimate.

Table VI

Total Net Lease Revenues by Source

(Million Dollars)

	Total U.S.	Lower 48 Onshore	Lower 48 Offshore	Total Alaska
Estimated Net Revenues: Oil & Gas Production				
1990:	$72,709	$47,858	$14,654	$10,197
1989:	$63,517	$42,632	$13,396	$7,589
1988:	$57,204	$38,439	$12,846	$5,919
Other Lease Revenue:				
1990:*	$1,413	$1,307	$100	$76
1989:*	$1,677	$1,396	$209	$72
1988:	$1,646	$1,340	$231	$75
Royalty Payments Received:				
1990:*	$980	$927	$52	$1
1989:*	$934	$867	$66	$1
1988:	$1,062	$986	$75	$1
Total Revenues:				
1990:	$75,172	$50,092	$14,806	$10,274
1989:	$66,128	$44,795	$13,671	$7,662
1988:	$59,912	$40,765	$13,152	$5,995

* Data not strictly comparable to previous years.

Table VII: U.S. Production and Revenues
(19 Largest Companies)

	Gross	Net
Sales Volumes		
Crude Oil (MB)	2,006	1,744
Natural Gas (MMCF)	8,107	7,050
Lease Revenues ($ Mil)		
Crude Oil	$ 35,285	$ 30,683
Natural Gas	13,943	12,124
Royalty Income	551	551
Other Lease Revenues	750	750
Total	$ 50,529	$ 44,108

Note: This additional table permits comparisons of expenditure data for the 19 largest companies on a unit of production or percent of revenue basis.

APPENDIX A:

Questionnaire and Instructions

OVERSIZE FOLDOUT(S) FOUND HERE IN THE PRINTED EDITION OF THIS VOLUME ARE FOUND FOLLOWING THE LAST PAGE OF TEXT IN THIS MICROFICHE EDITION.

SEE FOLDOUT NO 1

1990 SURVEY ON OIL AND GAS EXPENDITURES

RETURN TO:

AMERICAN PETROLEUM INSTITUTE
STATISTICS DEPARTMENT--ATTN: EPS
1220 L STREET, N.W.
WASHINGTON, D.C. 20005

DUE DATE: May 15, 1991

GENERAL INSTRUCTIONS:

This survey collects data on expenditures incident to finding, developing, and producing oil and gas in the United States. Geographic areas are subdivided for Onshore Lower 48 States, Offshore Lower 48 States, and Alaska, including State and Federal offshore waters.

Offshore includes leases seaward from the coastline (i.e., the line of ordinary low water along that portion of the coast which is in direct contact with the open sea, and the line marking the seaward limit of inland waters.

Report your company's operations on a calendar year basis for the survey year. Revenues and expenditures should be reported only by those directly engaged in drilling and producing operations. Do not report revenues or expenditures applicable to gas processing plants or gas systems.

Please fill in all blanks. If you had no expenditures for any line item, please indicate such with a "0" (zero). If information is not available for a given item, provide your "best estimate" or note "NA" (not available). Please do not substitute a "0" for data that are not available. Since expenditures, not net cash flow, are being reported, the only negative values possible are for lines 15 and 29.

REVENUES:

Report as revenues the receipts of producers from their net (after royalty payments, production payment disbursements, and net profits disbursements) company interest in oil and gas production, recorded in the books of account in the calendar year.

Also include certain non-operating revenues from other sources such as royalty interests, net profit interest receipts, production payments receipts, etc., owned in productive properties.

EXPENDITURES:

Report as expenditures the net company working interest share of the total expenditures for both operated and nonoperated properties. Report only the expenditures recorded on the books of account (whether actually paid or accrued, for current expenses or on capital account) in each category during the survey year.

Do not report non-cash items such as depletion, depreciation, amortization, etc., as overhead, except in G&A Overhead (lines 22, 33, and 42), where depreciation may be charged for office buildings (if the total cash expenditure for such facilities are not reported elsewhere).

COMPANY CONTACT:

Name: _____

Telephone: _____

(Please correct any errors in mailing label)

_____
Op. Code #

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1990 SURVEY ON OIL AND GAS EXPENDITURES

OPERATOR CODE NO.: _____

LINE NO.	ITEM (a)	Unit of measure (b)	NET COMPANY INTEREST BASIS			
			TOTAL UNITED STATES (c)	GEOGRAPHICAL AREA		
				TOTAL ALASKA (d)	LOWER 48	
					ONSHORE (e)	OFFSHORE (f)
1	**I. SALES VOLUMES** A. Total crude petroleum and condensate	Thousand barrels				
2	B. Natural gas	Million cubic feet				
3	**II. TOTAL LEASE REVENUES**	Thousand dollars				
4	A. Total crude petroleum and condensate					
5	B. Natural gas					
6	C. Income received from oil and gas royalties					
7	D. Other lease revenues from producing operations					
8	**III. TOTAL EXPENDITURES (CAPITALIZED AND EXPENSED)**			[redacted]		
9	A. Total exploration expenditures					
10	1. Total drilling & equipping expenditures					
11	a. Total completed well costs					
12	1. Dry holes					

13	2. Oil wells					
14	3. Gas wells					
15	b. Work-in-progress adjustment					
16	2. Lease and land acquisitions of nonproducing acreage					
17	3. Land department, leasing, and scouting					
18	4. Geological and geophysical					
19	5. Lease rents					
20	6. Test hole contributions					
21	7. Other exploration expenditures, including direct overhead		[redacted]			
22	8. General and administrative overhead not reported elsewhere					
23	B. Total development expenditures					
24	1. Total drilling & equipping expenditures					
25	a. Total completed well costs					
26	1. Dry holes					
27	2. Oil wells					
28	3. Gas wells					
29	b. Work-in-progress adjustment					
30	2. Lease equipment					
31	3. Fluid injection and improved recovery programs					
32	4. Other development expenditures, including direct overhead		[redacted]			
33	5. General and administrative overhead not reported elsewhere					

Thousand dollars

(Please complete Lines 34 through 45 on reverse side)

A separate set of "Notes and Instructions" (enclosed) provides a detailed definition for each category.

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1990 SURVEY ON OIL AND GAS EXPENDITURES

OPERATOR CODE NO.: _____

LINE NO.	ITEM (a)	Unit of measure (b)	NET COMPANY INTEREST BASIS			
			TOTAL UNITED STATES (c)	GEOGRAPHICAL AREA		
				TOTAL ALASKA (d)	LOWER 48	
					ONSHORE (e)	OFFSHORE (f)
34	C. Total production expenditures	Thousand dollars				
35	1. Total direct operating expenditures					
36	a. Operating and maintenance					
37	b. Well workovers					
38	c. Other direct expenses					
39	2. Total indirect operating expenditures					
40	a. Windfall profit tax					
41	b. Other taxes (excl. income taxes)					
42	c. General & administrative overhead					
43	d. Other indirect expenses					
44	**IV. OTHER OPERATOR INFORMATION** A. No. producing oil wells					
45	B. No. producing gas wells					

Please note any changes in your reporting methodologies or your company's operations during 1990 (i.e., mergers or acquisitions) that will cause differences in the comparability of 1990 data to the previous year(s):

API SURVEY ON OIL AND GAS EXPENDITURES

NOTES AND INSTRUCTIONS

I. SALES VOLUMES

Line 1 — Total crude petroleum and condensate — Report volumes in thousand barrels (42 U.S. gallons at 60 degrees Fahrenheit). Include hydrocarbons which liquify at atmospheric pressure and temperature and are separated at lease surface facilities. Exclude liquid products derived from natural gas liquid plants which should be included with natural gas volumes on line **2**. Report the net company interest sales from all leases in which all or part of the working interest is owned.

Line 2 — Natural gas — Report the volume of raw natural gas including plant condensate volumes but excluding residue gas used for lease operations such as recycling or lifting. The volumes reported should be adjusted to a pressure base of 14.73 pounds absolute at 60 degrees Fahrenheit.

II. TOTAL LEASE REVENUES

Line 3 — Total lease revenues — Report the totals of lines **4**, **5**, **6**, and **7**.

Line 4 — Crude petroleum and condensate — Report values comparable to the related volumes reported in I. SALES VOLUMES. Do not include the value of liquid products derived from gas processed at natural gas plants which should be included in line **5**.

Report the revenues received from crude petroleum and lease condensate sales after royalty payments to others and net profit disbursements. Do not deduct production or severance taxes since these should be reported as expenditures.

Line 5 — Natural gas — Report values comparable to the volumes reported on line **2**. Lease revenue should include the lease share of revenue derived from the sale of plant liquids and residue gas and revenues from sales of unprocessed gas.

Report the revenues received from natural gas after royalty payments to others and net profit disbursements. Do not deduct production or severance taxes since these should be reported as expenditures.

Line 6 — Income received from oil and gas royalties — Report the net company interest in revenues from oil and gas royalties for the period. Includes revenues received from oil production payment interests, net profits interests, overriding royalties, etc. Do not include royalty revenue received where both a working and royalty interest exist on the same property. Such royalty interest will be reported on lines **4** and **5** as appropriate.

Line 7 — Other lease revenue from producing operations — Report the net company interest in the revenue received which is incidental to oil and gas operations, such as equipment rentals, receipts from services performed for others, sales of water, steam, CO_2, helium, etc. Do not include revenue attributable to operations of gas processing plants or gas systems, or receipts from sale of assets, producing properties, etc. Do not include revenue applicable to mined sulfur, oil shale, oil sands, uranium, or other mineral operations.

III. TOTAL EXPENDITURES (CAPITALIZED AND EXPENSED)

Line 8 — Total expenditures (Capitalized and expensed) — Report on this line the totals of lines **9**, **23**, and **34**. In this section, the classification of exploratory and development well expenditures should be based on the AAPG well classification as follows:

Exploratory wells include new-field wildcats, new pool wildcats, deeper pool tests, shallower pool tests, and outposts (extensions).

Development wells are those wells drilled to produce oil or gas from pools discovered by previous drilling.

Wells completed successfully in both oil and gas reservoirs should be reported as oil wells (lines 13 or 27 as applicable). Classification of completed wells as between oil and gas should be based on the appropriate State regulatory requirements. Exclude non-cash items such as depletion, depreciation, and amortization, etc., except that on lines **22**, **33**, and **42** depreciation may be charged for office buildings, etc. where the total cash expenditure for such facilities are not reported elsewhere. Exclude capitalized interest payments to detailed expenditures.

Line 9 — Total exploration expenditures — Report on this line the totals of line **10**, **16**, **17**, **18**, **19**, **20**, **21**, and **22**.

Line 10 — Total drilling and equipping expenditures — Report only the expenditures for drilling and equipping exploratory wells incurred during the year covered by this report. Include expenditures for **old wells drilled deeper and redrilled wells,** but exclude expenditures for stratigraphic and core test drilling which are to be reported on line **18**.

Note that lines **12**, **13**, and **14** include prior year expenditures for wells completed during the year covered by this report. However, line **15**, the "Work-in-progress adjustment," provides for an adjustment to these expenditures, so that line **10** shows drilling expenditures for the survey year only. That is, line **10** equals line **11** (the sum of lines **12**, **13**, and **14**) plus or minus line **15**.

Note: For lines **12**, **13**, and **14** report the total cost of wells completed during the survey year. Include costs incurred during prior years.

Line 11 — Total completed well costs — Report on this line the totals of lines **12**, **13**, and **14**, the total cost of wells completed during the survey year, including costs incurred during prior years.

Line 12 — Dry holes — Report expenditures for casing, tubing, and wellhead fittings associated with exploratory dry wells; expenditures for roads, grading, etc.; expenditures for drilling platforms; and all other expenditures incident to exploratory dry wells. Reduce cost by the value of salvaged equipment capable of reuse.

Report the net company interest in all expenditures (reduced by the amount of outside cash contributions, such as bottom hole or dry hole money) for drilling exploratory dry holes.

Lines 13 and 14 — Oil wells and Gas wells — Report expenditures for casing, tubing, and wellhead fittings; expenditures for roads, grading, etc.; expenditures for drilling platforms; and all other expenditures incident to successful exploratory drilling. Exclude all expenditures for equipment beyond the Christmas tree and expenditures for all downhole pumping and artificial lift equipment which should be reported on line **30**.

Report the net company working interest in all expenditures (reduced by the amount of outside cash contributions, such as bottom hole money) for drilling successful exploratory wells.

Line 13 — Oil wells — Report the expenditures for exploratory wells completed for production where the result of the drilling was to find oil reserves.

Line 14 — Gas wells — Report the expenditures for exploratory wells completed for production where the result of the drilling was to find gas (other than casinghead gas) reserves.

Line 15 — Work-in-progress adjustment — Work-in-progress is defined as those drilling and equipping expenditures spent in prior years on current year completions minus the drilling and equipping expenditures in the current year on future year completions. The net amount (plus or minus) is the work-in-progress adjustment. Thus, if $10,000 were spent last year on a current year completion and $12,000 was spent this year on a well to be completed next year, the work-in-progress adjustment would be $2,000.

Report the net company interest in the amount of work-in-progress at the end of the survey year minus earlier years' drilling and equipping expenditures for wells completed during the year. If such prior year work-in-progress exceeds the current year work-in-progress, indicate a negative number by enclosing the figure in parentheses.

Line 16 — Lease and land acquisition of non-producing acreage — Report the net company interest in expenditures incurred during the report year for acquiring undeveloped acreage, including lease bonuses, advance initial rentals which, because of unusual circumstances, are actually in the nature of a bonus, and any other outlays necessary to acquire leases, mineral rights, and fee lands incident to oil and gas exploration. Exclude annual rentals and other lease carrying expenditures which should be reported on line **19**.

Line 17 — Land department, leasing, and scouting — Report the net company interest in all land department, scouting, and lease acquisition expenditures, except the actual outlays for purchase, land leasing, and rentals which should be reported on lines **16** and **19**.

Line 18 — Geological and geophysical — Report the net company interest in all expenditures for geological and geophysical exploration. Include expenditures for capital equipment identifiable with G & G and for core drilling (such as some types of slim hole stratigraphic tests) where the intention in advance of drilling is not to complete the well as a producing well, and/or when such tests are drilled in such a manner that productive completion is not possible.

Line 19 — Lease rents — Report the net company interest in expenditures made during the year for lease rentals and other expenditures for carrying leases, such as shut-in royalties and annual payments. Omit land department, leasing, and scouting expenditures, which should be reported on line **17**, and advance rentals which are actually in the nature of a bonus, which should be reported on line **16**.

Line 20 — Test hole contributions — Report the net company interest in all contributions made toward test wells, including dry hole money, bottom hole money, etc. Do not include the cost of acreage contributions.

Line 21 — Other exploration expenditures, including direct overhead — Report the net company interest in all expenditures not listed on lines **10** through **20** which relate directly to exploration for oil and gas, whether such expenditures are capitalized or expensed. Include expenditures for exploratory capital equipment constructed or purchased not included in lines **10** through **20**. Include direct overhead, especially district field exploration functions, e.g. district supervisory salaries; ad valorem taxes on non-producing leases; and taxes on buildings and equipment used for exploratory purposes.

Exclude exploration overhead costs which cannot be directly identified with exploratory activities undertaken during the period which should be reported on line **22**. Exclude all exploratory outlays not specifically devoted to oil and gas operations, such as for mined sulfur, oil shale, uranium, or other minerals.

Line 22 — General and administrative overhead not reported elsewhere — Report the net company interest in all general operating and administrative expenditures above the field level, which are applicable to exploration activities, excluding only those items which have been directly classified elsewhere. Include salaries, office expenditures, and research and development (R&D) expenditures.

If engaged in activities other than oil and gas, include under this heading only that portion of general and administrative expenditures applicable to oil and gas exploration. Do not include interest on investment or State and Federal income taxes.

General and administrative overhead reported in total should be distributed to exploration, development, and production on a basis of reasonable pro rata share or in accordance with your company's allocation practice.

Line 23 — Total development expenditures — Report on this line the totals on lines **24**, **30**, **31**, **32**, and **33**.

Line 24 — Total drilling and equipping expenditures — Report only the expenditures for drilling and equipping development wells incurred during the year covered by this report. Include expenditures for **old wells drilled deeper and redrilled wells,** but exclude expenditures for well workovers which are to be reported on line **37**. Also exclude expenditures for service wells which are to be reported lines **31** or **32**.

Note that lines **26**, **27**, and **28** include prior year expenditures for wells completed during the year covered by this report. However, line **29**, the "Work-in-progress adjustment," provides for an adjustment to these expenditures, so that line **24** shows drilling expenditures for the survey year only. That is, line **24** equals line **25** (the sum of lines **26**, **27**, and **28**) plus or minus line **29**.

Note: For lines **26**, **27**, and **28** report the total cost of wells completed during the survey year. Include costs incurred during prior years.

Line 25 — Total completed well costs — Report on this line the totals of lines **26**, **27**, and **28**, the total cost of wells completed during the survey year, including costs incurred during prior years.

Line 26 — Dry holes — Report expenditures for casing, tubing, and wellhead fittings associated with development dry holes; expenditures for roads, grading, etc.; expenditures for drilling platforms; and all other expenditures incident to development dry wells. Reduce cost by salvage value of equipment capable of reuse.

Report the net company interest in all expenditures for drilling development dry holes.

Lines 27 and 28 — Oil wells and Gas wells — Report expenditures for casing, tubing, and wellhead fittings associated with successful development wells; expenditures for roads, grading, etc.; expenditures for drilling platforms; and all other expenditures incident to successful development drilling. Exclude all expenditures for equipment beyond the Christmas tree and expenditures for all downhole pumping and artificial lift equipment, which should be reported on line **30**. Also exclude expenditures for drilling injection wells which should be reported on line **31**.

Report the net company interest in all expenditures for drilling successful development wells.

Line 27 — Oil wells — Report the expenditures attributed to wells completed for production of crude petroleum within proved areas of oil reservoirs to depths of stratigraphic horizons known to be productive.

Line 28 — Gas wells — Report the expenditures attributed to wells completed for production of natural gas (other than casinghead gas) within proved areas of gas reservoirs to depths of stratigraphic horizons known to be productive.

Line 29 — Work-in-progress adjustment — Work-in-progress is defined as those drilling and equipping expenditures spent in prior years on current year completions minus the drilling and

equipping expenditures in the current year for future year completions. The net amount (plus or minus) is the work-in-progress adjustment. Thus, if $10,000 were spent last year on a current year completion and $12,000 was spent this year on a well to be completed next year, the work-in-progress adjustment would be $2,000.

Report the net company interest in the amount of work-in-progress at the end of the survey year minus earlier years' drilling and equipping expenditures for wells completed during the year. If such prior year work-in-progress exceeds the current year work-in-progress, indicate a negative number by enclosing the figure in parentheses. Exclude injection wells in progress which are to be reported on line **31**.

Line 30 — Lease equipment — Report the net company interest in all lease equipment expenditures beyond the Christmas tree installation, including flow lines, flow tanks, field separators, heater-treaters, production platforms, and related facilities. Include expenditures for all normal pumping and other artificial lift equipment, including downhole installation required for primary production.

Line 31 — Fluid injection and improved recovery programs — Report the net company interest expenditures in fluid injection and improved recovery programs which include gas injection, water injection, steam injection, miscible phase, in situ combustion, etc., associated with oil and gas production. Report expenditures for procuring and installing all facilities and for drilling service wells, or converting existing wells to service wells, associated with such programs.

Include pumps, compressors, engines, tankage, gathering and injection lines, treating facilities, special downhole and surface equipment, etc. Service wells include wells used for gas injection, water injection, steam injection, air injection, and water supply for injection.

Do not include expenditures for observation wells, salt water disposal wells, water supply wells, or other wells required for primary production operations, which should be included in line **32** with other development expenditures.

Line 32 — Other development expenditures, including direct overhead — Report the net company interest in all expenditures not included in lines **24**, **30**, or **31** which relate directly to development operations for oil and gas, whether such expenditures are capitalized or expensed. Include expenditures for capital equipment constructed or purchased.

Include direct overhead, especially at district and field level, where such overhead can be identified with the development functions (e.g. district supervisory salaries and taxes on buildings and equipment used for development operations).

Exclude overhead costs which cannot be directly identified with development activities undertaken during the year. Exclude all development outlays not specifically devoted to oil and gas operations, such as for mined sulfur, oil shale, uranium, or other minerals.

Line 33 — General and administrative overhead not reported elsewhere — Report the net company interest in all general operating and administrative expenditures above the field level, which are applicable to development activities, excluding only those items which can be directly classified on line **32**. Include salaries, office expenditures and R&D expenditures. If engaged in activities other than oil and gas, include under this heading only that portion of general and administrative expenditures applicable to oil and gas development operations. Do not include interest on investment or State and Federal income taxes.

General and administrative overhead reported in total should be distributed to exploration, development, and production on a basis of reasonable pro rata share or in accordance with your company's allocation practice.

Line 34 — Total production expenditures — Report on this line the totals of lines **35** and **39**. Do not include expenditures applicable to gas processing plants or gas systems.

Line 35 — Total direct operating expenditures — Report on this line the totals on lines **36**, **37**, and **38**.

Line 36 — Operating and maintenance — Report the net company interest in normal daily operating expenses such as wages and transportation for field personnel directly associated with oil and gas production; materials and supplies consumed; and field office expenses as well as surface repair and maintenance on lease equipment. Also report all other operating and maintenance expenses except workover expense which is reported on line **37**.

Line 37 — Well workovers — Report the net company interest in all expenditures directly related to well workovers including expensed material, contract labor, etc.

Line 38 — Other direct expenses — Report the company net interest in all other direct production expenses not included on lines **36** and **37**.

Line 39 — Total indirect operating expenses — Report on this line the totals on lines **40**, **41**, **42**, and **43**.

Line 40 — Windfall profit tax — Report the Federal excise tax expenses attributable to the Crude Oil Windfall Profit Tax Act of 1980, including adjustments such as those resulting from the net income provision.

Line 41 — Other taxes, excluding income taxes — Report the net company interest in total payments for ad valorem, production, or severance taxes to State and local governments. Do not reduce the value of crude oil and natural gas produced at the wellhead by such amounts. Exclude ad valorem taxes on undeveloped properties and property taxes on buildings and equipment used for exploratory purposes, which should be included on line **21**; ad valorem taxes on office buildings or other facilities used for development purposes, which should be included on line **32**. Do not include State or Federal income taxes or Federal excise taxes.

Line 42 — General and administrative overhead — Report the net company interest in all general operating and administrative expenditures above the field level which are applicable to production activities, except those which are included in line **35**.

General and administrative overhead reported in total should be distributed to exploration, development, and production on a basis of reasonable pro rata share or in accordance with your company's allocation practice.

Line 43 — Other indirect expenses — Report the net company interest in all indirect expenses applicable to producing operations which are not included in lines **40**, **41**, and **42**. Do not include interest on investment or State and Federal income taxes. Exclude expenses not related to oil and gas operations, such as those related to oil shale, mined sulfur, etc.

IV. OTHER OPERATOR INFORMATION

Line 44 — Number of producing oil wells — Report the number of producing oil wells in which your company has a net working interest. The number reported should be the sum of your fractional interest in the producing wells. Round the sum of the fractional interest for the number of wells to the nearest tenth of a well. Wells producing from both oil and gas reservoirs should be reported as producing oil wells.

Line 45 — Number of producing gas wells — Report the number of producing gas wells in which your company has a net working interest. The number reported should be the sum of your fractional interest in the producing wells. Round the sum of fractional interest for the number of wells to the nearest tenth. Producing gas wells are those wells in which one or more zones produce natural gas.

1990 SURVEY ON OIL & GAS EXPENDITURES

DEFINITION REVISIONS

ADD TO EXISTING DEFINITIONS:

Line 7

Do not include receipts from sale of assets such as developed acreage.

Line 16

Exclude expenditures for acquiring undeveloped acreage from oil and gas companies.

REPLACE EXISTING DEFINITIONS:

Lines 15 and 29

Work-in-progress adjustment is the difference between the work-in-progress at the end of the survey year and the work-in-progress at the end of the prior year.

For example, if 12,000 was spend in the survey year on wells to be completed in following years, and $10,000 was spend in prior years on wells to be completed in following years (including the survey year), the net difference of $2,000 would be the work-in-progress.

If the prior year work-in-progress exceeds the current year work-in-progress, indicate a negative number by enclosing the figure in parentheses.

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CONFIDENTIAL

1990 SURVEY ON OIL AND GAS EXPENDITURES

OPERATOR CODE NO.: _____

LINE NO.	ITEM (a)	Unit of measure (b)	NET COMPANY INTEREST BASIS			
			TOTAL UNITED STATES (c)	GEOGRAPHICAL AREA		
				TOTAL ALASKA (d)	LOWER 48	
					ONSHORE (e)	OFFSHORE (f)
1	**I. SALES VOLUMES** A. Total crude petroleum and condensate	Thousand barrels				
2	B. Natural gas	Million cubic feet				
3	**II. TOTAL LEASE REVENUES**	Thousand dollars				
4	A. Total crude petroleum and condensate					
5	B. Natural gas					
6	C. Income received from oil and gas royalties					
7	D. Other lease revenues from producing operations					
8	**III. TOTAL EXPENDITURES (CAPITALIZED AND EXPENSED)**	Thousand dollars				
9	A. Total exploration expenditures					
10	1. Total drilling & equipping expenditures					
11	a. Total completed well costs					
12	1. Dry holes					
13	2. Oil wells					
14	3. Gas wells					
15	b. Work-in-progress adjustment					
16	2. Lease and land acquisitions of nonproducing acreage					
17	3. Land department, leasing, and scouting					
18	4. Geological and geophysical					
19	5. Lease rents					
20	6. Test hole contributions					
21	7. Other exploration expenditures, including direct overhead					
22	8. General and administrative overhead not reported elsewhere					
23	B. Total development expenditures					
24	1. Total drilling & equipping expenditures					
25	a. Total completed well costs					
26	1. Dry holes					
27	2. Oil wells					
28	3. Gas wells					
29	b. Work-in-progress adjustment					
30	2. Lease equipment					
31	3. Fluid injection and improved recovery programs					
32	4. Other development expenditures, including direct overhead					
33	5. General and administrative overhead not reported elsewhere					

(Please complete Lines 34 through 45 on reverse side)

A separate set of "Notes and Instructions" (enclosed) provides a detailed definition for each category.

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